

REMARKS

This paper responds to the Office Action mailed on July 27, 2006.

Claim 48 is amended, no claims are canceled, and no claims are added; as a result, claims 45-58 are now pending in this application.

§112 Rejection of the Claims

Claims 48-53, 55 and 58 were rejected under 35 U.S.C. § 112, first paragraph, as lacking adequate description or enablement. Applicant respectfully traverses.

Regarding claims 48-55, and 58:

Claim 48, as currently presented, recites: "plasma etching a conductive material in the same general site used to perform said deposition." In support of this claim rejection, the Office Action states: "Nowhere in the disclosure teaches or suggests etching a conductive material and/or said material (i.e., the etch resistant layer) simultaneously with performing said deposition [of the resistance layer 80]." Applicant respectfully asserts that as currently presented claim 48 does have support in the specification. The specification, in the third embodiment, discloses the deposition of a material, and simultaneous etching of a conductive material. Claims 47-53 incorporate all elements of claim 48. As a result, Applicant respectfully requests reconsideration and removal of the rejection of claims 48-55.

Regarding claim 55:

Claim 55, as currently presented, recites: "The method of claim 45, wherein etching said material in the same general site used to perform said deposition includes etching a conductive layer from a surface of the wafer." Applicant respectfully disagrees with the Office Action's interpretation of claim 55. As admitted by the Office Action, the third embodiment disclosed in the specification includes performing etching of a conductive layer simultaneously with deposition of an etch resistant layer. The etching of a conductive layer as recited in claim 55 is entirely consistent with the third embodiment disclosed in the specification. As a result, applicant respectfully requests reconsideration and removal of the rejection of claim 55.

§103 Rejection of the Claims

Claims 45-47, 54 and 56-57 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurosawa (U.S. 4,371,407) in view of Marks et al. (U.S. 5,204,288). Applicant respectfully traverses.

Claim 45 recites in part: "deposition occurs at a greater rate within said site than above said features." Similarly, claim 46 recites in part: "deposition occurs at a greater rate within said site than above said features." Applicant respectfully requests, for purposes of possible appeal, clarification of the basis for rejection of these claims.

Applicant respectfully asserts that the Office Action has not supported a *prima facie* case of obviousness, because the cited combination of Kurosawa in view of Marks does not disclose all elements of the rejected claims. The reference must teach or suggest all the claim elements. M.P.E.P. § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)). In support of the rejection of these claims, the Office Action states: "Applicant's argument that "Kurosawa does not suggests ... said deposition occurs at a greater rate within said site than above said features" is unpersuasive because the "greater rate" is a matter of choice."

First, Applicant notes that the previous Office Action made a similar assertion based on *In re Woodruff*. Applicant raised arguments in the subsequent response to the previous Office Action, primarily that *In re Woodruff* is entirely distinguishable from the current subject matter because deposition occurring at two rates in two locations is a distinct functional difference, not merely a simple change in rate as discussed in *In re Woodruff*. Applicant respectfully requests clarification of the Office Action's continued rejection of these claims, because the current Office Action has failed to address Applicant's response to the Office Action's reliance on *In re Woodruff*. The Office Action merely restated the holding of *In Re Woodruff* without providing any support for how this case is applicable to the rejected claims. Further, the Office Action did not provide any additional support for this assertion in relevant case law. Applicant respectfully requests, for purposes of possible appeal, clarification of the Office Action's interpretation of *In re Woodruff*, and clarification of the source of the Office Action's assertion that using two separate rates, as recited in the rejected claims, is merely a matter of choice.

Second, Applicant requests clarification of the reasoning given for the Office Action's

continued assertion that the different rates recited in the claimed subject matter are a matter of choice. In support of the rejection, the Office Action states: "Applicant disclosures, "The deposition rate of the polymer... can be decreased as compared to the polymer formation within the recess by various means, such as decreasing the source power, by decreasing the flow rate, by increasing the bias power, or by using a combination of these parameters. Other methods of controlling the deposition rate may also be possible and apparent to one of skill in the art... methods fall within the scope of the invention." Applicant respectfully requests clarification of how the specifications description of how to enable deposition at a greater rate within said site than above said features supports that the greater rate is merely a matter of design choice.

Moreover, applicant objects to the use of the present disclosure for a teaching of prior art. This is an impermissible use of hindsight reconstruction of the presently claimed subject matter.

The mere assertion that one skilled in the art would be able to change deposition rates does not equate to this being a mere matter of design choice. Of course one skilled in the art of material deposition is aware of how to change a rate of deposition. However, the claimed subject matter takes this concept further. The claimed subject matter recites deposition at a greater rate with the site than above features. As admitted by the Office Action, this element is not present in the cited prior art. As a result, Applicant respectfully requests, for purposes of possible appeal, clarification of the Office Action's assertion that the greater rate is merely a matter of choice.

Finally, Applicant respectfully asserts that the Office Action is not asking whether the claimed subject matter as a whole would have been obvious. In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985); MPEP § 2141.02. Applicant respectfully asserts the Office Action's characterization of the greater rate recited in these claims is impermissible, because the Office Action is focusing on whether changing a rate of deposition itself would have been obvious, instead of determining whether the claimed invention as a whole would have been obvious.

For at least those reasons stated above, Applicant respectfully requests reconsideration and removal of the rejection of claims 45 and 46. Claims 47, 54, and 56 are dependants of claim 45, and incorporate all elements of claim 45. Claim 57 is a dependant of claim 46, and incorporates all elements of claim 46. Claims 45 and 46 are believed allowable. As a result, Applicant respectfully requests reconsideration and removal of the rejection of claims 45-47, 54, and 56-57.

Claims 48-53, and 58 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurosawa (U.S. 4,371,407) in view of Marks et al. (U.S. 5,204,288). Applicant respectfully traverses.

First, Applicant respectfully notes that the Office Action did not list claims 48-53 as rejected by Kurosawa in view of Marks. The Office Action did not mention any rejection of these claims other than the lack of adequate disclosure above. However, the Response to Arguments section of the Office Action discusses the rejection of claim 48 by Kurosawa in view of Marks. As a result, Applicant proceeds as if claims 48-53 are included in the obviousness rejection.

Claim 48 as currently presented recites: "A method of providing a material in a site between metal features on a wafer, comprising: performing a deposition of said material in said site; and plasma etching said material and a conductive material in the same general site used to perform said deposition, wherein said plasma etching further comprises etching generally simultaneously with performing said deposition." In support of the rejection of claim 48, the Office Action states:

Applicants' argument that "Marks does not disclose plasma etching of conductive material simultaneously with performing deposition is persuasive. However, the examiner notes that in pending claim 48 (as well as claims 45 and 46), that the process step of "etching said material in the same general site used to perform said deposition, wherein said step of etching further comprises etching generally simultaneously with performing said deposition" means the "said material" being etched s the etch resistant layer 80 (polymer) simultaneously formed within the contact.

Applicant respectfully disagrees with this statement. Claim 48, as currently presented, recites: "etching a conductive material." This is not, as the Office Action states, a polymer. In contrast with claim 48, Marks apparently discloses a method of providing and/or etching an insulative material. The Office Action admits that Marks does not disclose etching of a conductive layer. Kurosawa also apparently discloses a method of providing/etching an insulative material. Applicant cannot find in either Marks or Kurosawa any disclosure of etching a conductive material simultaneously with performing a deposition. Thus, Applicant respectfully asserts that the Office Action has not established a prima facie case of obviousness, because the cited combination does not disclose all elements of claim 48. Applicant respectfully requests removal of the rejection of claim 48. Applicant also requests clarification, for purposes of possible appeal, of the Office Action's interpretation of Marks, and the resulting rejection of claims 48-52. Claims 49-52 are dependant claims that incorporate every limitation recited in claim 48. Claim 48 is believed allowable. As a result, Applicant respectfully requests reconsideration and removal of the rejection of claims 48-52.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 349-9587 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date

25 Sept '06

By

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 25 day of September 2006.

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